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THE

HISTORY,

OF

INOCULATION.

By M. DE LA CONDAMINE,
Member of the Royal Academy of Sciences in France.

Published April 24th, 1754.

NEW-HAVEN,

Printed by T. and S. GREEN, near the College.

C O N T E N T S.

THE first part contains the principal historical facts,
concerning Inoculation.

In the second, the objections against its use are examined.

The third part contains, consequences drawn from the
facts of the preceding parts, and the advantages of Inocula-
tion set in a proper light.

OCT 19 1900

THE HISTORY OF INOCULATION.

P A R T I.

THE artificial communication of the small-pox, an operation more generally known at present under the name of inoculation, has been practised time immemorial, in Circassia, Georgia, and the countries bordering upon the Caspian sea. Tho' unknown in the greatest part of Europe, it was in use in the principality of Wales in England. It was formerly known, and since neglected in Greece and Turkey, and was not revived again at Constantinople till towards the end of the last century, when a Thessalian woman practised it there with great success; but this was only among the lower class of people. This custom is very ancient, and generally received in the island of Cephalonia, subject to the republic of Venice; it is common in the Morea, and the island of Candia. If we go out of Europe, we shall find it at Bengal, and so long practised on the coast, and in the interior of Africa, at Algiers, Tunis, and Tripoli, that its origin is unknown, but probably introduced in the time of the Arabs. In the beginning of the last century, the small-pox was communicated at China, without incision, but through the nose, by respiring the matter of some dried pustules reduced to powder. All these facts were buried in oblivion, till Emanuel Timone, a Greek physician, and member of the universities of Padua and Oxford, having undertaken to bring inoculation into some vogue, gave an ample description of it in a letter to Dr. Woodward, written from Constantinople in the month of December, 1713. During the eight years he had attended the operation in that capital, there were only two fatal events, whose causes were foreign to inoculation, one of the patients having died of a dysentery the 32d day, and the other of a marasmus, the 40th after the operation.

James

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James Pilarini, another Greek physician, who had long disapproved the new method, at last, fully convinced of its utility from the evidence of facts, wrote an apology for the artificial small-pox, in a small Latin work, printed at Venice in 1715. The Thessalian woman assures us she had inoculated 6000 persons in the year 1713. Of this number were the greater part of the English, Dutch, and French merchants settled at Constantinople. Anthony Le Duc, another Greek, who was also inoculated by this woman, received afterwards, in 1722, the Doctor's cap, at Leyden, maintained publicly the practice of inoculation.

Madam Wortley Montague, the English Ambassador's Lady at the Ottoman Porte, in 1717, had her only son, about six years old, inoculated there by her surgeon, and afterwards her daughter, on her return to England, where the example was followed by several persons of distinction. It was by the desire of the College of Physicians, at London, that the experiment was made on six criminals; it saved a life they deserved to lose by their crimes. The late Queen of England then Princess of Wales, had two of her younger daughters, the late Queen of Denmark, and the Princess of Hesse-Cassel, inoculated in 1722: This operation, conducted under the Direction of Dr. Sloane, contributed greatly to enhance the reputation of this new preservative. Whilst the most famous physicians of Great-Britain, the Doctors Sloane, Fuller, Arbuthnot, Jurin, Mead, &c. favoured the new method, or wrote in its favour; whilst Dr. Shadwell, &c. practised it on their children, Blackmore and Wagstaffe, two physicians little known, and Massey, an apothecary, seemed to endeavour to get a name by proscribing it. Whilst the Bishop of Salisbury and other casuists suffered their children to be inoculated, other divines pretended that it brought down the wrath of Heaven on the nation: To prove this, some were so absurd as to alledge the great numbers that died of the natural small-pox, and one, in particular, boldly asserted in his sermon, that the devil himself had given Job the small-pox, by this infernal method.

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However, besides the experiments of Constantinople, where, in one year, upwards of 10,000 persons had happily passed through this trial, a great number were inoculated in England without any accident. Dr. Jurin, Secretary to the Royal Society, published several pieces in 1723, and 1724, whereof some are inserted in the Philosophical Transactions, giving an account of the successful experiments made in Great-Britain and New-England, with several letters by way of supplement and proofs, and exact lists of the sick, and those that died of the natural and artificial small pox; together with comparisons of their effects. It appears from his calculations, confirmed by others more recent, that at London, and even in the country, where the distemper is reputed less dangerous, there died commonly a seventh, sixth, and sometimes fifth of those, who had been taken ill of the natural small pox, whilst scarce one died in ninety-one, of such as received it by insertion, though it could not be proved that this death was occasioned thereby, and though the method was not yet brought to perfection. In these beginnings, several experiments were hazarded upon infirm and ill-prepared subjects; and it was in such circumstances, that, at Boston in New-England, of 300 persons, young, old, women with child, inoculated indiscriminately, from one year to seventy, with few precautions, in a time of epidemy and hot weather, five died, that is, one in sixty; though it is doubtful whether they died of the effects of the operation; however it is pretended that one died in forty-nine, and this misfortune, having fallen upon some persons of distinction, gave weight to the clamours of such as shewed themselves prejudiced. The Magistracy interposed, the spirit of party interfered, and the operation was not permitted but under certain restrictions that resembled a prohibition. It was given out that inoculation did not preserve from the natural small-pox, and yet no example could be produced, to prove it. The wiser and more moderate concluded, that it was prudent to wait till time and repeated experiments had given more insight into the matter.

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The success of the new method was first known in France, by a letter M. de la Cotte, a Doctor of physic, addressed to M. Dodard, the King's first physician, and published at Paris in 1723, with the approbation of M. Burette, a Doctor of the faculty of Paris. In this letter, followed by some others of M. Sloane, M. Amyand, &c. the advantages of inoculation are properly stated, the lists and calculations of M. Jurin are cited, and some new facts are advanced, with judicious arguments, and answers to objections. Mention is also made therein of a consultation of nine of the most famous Doctors of Sorbonne, whom the author had the satisfaction to see conclude at last, 'that it was licit, in the view of being serviceable to the public to make experiments of that practice.' The same letter supposes, that M. Dodard, and several other famous physicians, as the late M. Chirac, M. Helvetius, &c. approved the new method. In the same work is quoted a letter of M. Astruc, wherein he expresses himself, 'that he did not judge that the operation could be attended with any danger, and that he was glad it was intended to be practised at Paris.'

The false reports that were industriously spread of the ill success of inoculation, at Boston, during the summer of 1723; the number carried off by the epidemy that same year at London, and falsely attributed to the operation; some misfortunes caused by the imprudence of young persons newly inoculated, who committed excesses; had diminished the public confidence. These reports reached Paris when the physicians had resolved upon making their experiments. After the success of those in England, and particularly on the Royal family, it was high time for making essays in France, at least in the hospitals. They were favoured by the Duke of Orleans, Regent of France; but his eyes were scarce closed, when a thesis was maintained in the schools of medicine, which, founding the alarm against the inoculators, treated their operation as criminal, those that practised as impostors and executioners, and the patients as dupes.

(7)

Repeated blows being immediately after given to the new method, it soon fell into a sort of oblivion till the year 1738. In that interval few were inoculated, even in England, and since that time the history of that this practice became almost unknown in France.

Whilst it seemed to lose ground in Europe, it made new conquests in Asia. The epidemy of 1723, the plague of Europe and America, made perhaps the tour of the world. The Tartars, among whom the small-pox is not common, were infected, and the greater part of grown-up persons died of it. Father Dentrecolles, a Jesuit Missionary, in his very curious letter of the 11th of May, 1726, at Pekin, relates that, in 1724, the Emperor of China sent physicians from his palace into Tartary, to sow there the artificial small-pox; this is the name the Chinese give their method of insertion, of which we shall speak in its place. Undoubtedly the success of the Chinese physicians was fortunate, having brought back with them a great number of horses, skins, and furs, which are the riches and money of the Tartars.

In other parts, the practice of inoculation, after the European manner, was perfected in silence during the time of its disgrace: Its progress was less divulged, but its salutary effects were not therefore less conspicuous, both in the antient and new world. Much about the year 1728, a Carmelite Missionary, in the neighbourhood of the Portuguese colony of Grand Para, in South-America, seeing all the Indians of his mission dying one after another of an epidemical small-pox, and that not one infected person recovered, he saved all those that remained, by hazarding on them the method of inoculation, of which he had but a very superficial knowledge, from an European gazette. His example was followed not less successfully by one of his brethren, a Missionary on the banks of Rio Negro, and by some Portuguese of Para. In a new epidemy that laid waste that province in 1750, the same preservative produced the same effect. A terrible epidemy ravaged
Carolina

Carolina in 1738; all those who were taken ill could not resist the violence of the distemper: Then it was that they called to mind how efficacious the remedy was, which they had neglected since the year 1724; they had again recourse to inoculation, which succeeded better than ever, because, in the hot sultry months of June, July, and August, a season very contrary to inflammatory diseases, and in a country where the method had not succeeded so well as in Europe, of a thousand persons inoculated, but eight died, which is only one to 125. It is very probable that in the experiments made in America, on a multitude of negro-slaves, less precautions were used in preparing the subjects, than in the operations made in Europe on free-men, whose lives were more precious: Besides, the generality of the negroes are originally infected with a venereal virus, which they bring from their country, and therefore the choice of fit subjects for inoculation is thereby rendered more difficult.

The new success of the practice in Carolina, in 1738, was not equal to that of the same year in England, when it began again to take place. Of near 2000 inoculated within twelve years at Winchester, and the neighbouring parts of Hampshire and Sussex, none died, according to the account of Dr. Langrish, but two women with child, who were dissuaded by their physicians to expose themselves to inoculation.

The year 1746 was, at London, the epocha of the foundation of a house of charity, as well for inoculating the poor, and diminishing by this means the devastation, made by the small-pox, of mankind, as for succouring those who might be taken ill of it in the natural way. It was in the church of this hospital, and in the same pulpit where, 30 years before, inoculation had been treated as the work of devils, that Dr. Maddox, Bishop of Worcester, preached that famous sermon, several times reprinted, whereby he excites the charity of his fellow-citizens in favour of this practice, of which he demonstrates the advantages: The
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(9)

annexed notes to this sermon, and the work published by M. Kirkpatrick, inform us that of 309 persons the greater part adults, inoculated in the new hospital, and of 1500 inoculated by three different Practitioners, that is, of 1809, but six died, which does not make one in 300 ; that M. Winchester, Surgeon to the Foundling hospital, lost but one child in 186 ; and that, of 370 other experiments made else where, one only had proved unfortunate. M. Frevin assures us, that, of upwards of 300 inoculations at Rye, but one was unsuccessful. It is true, that at Salisbury four died out of 422, and three at Blandford out of 309.

In the month of November, 1747, M. Ranby, first Surgeon to his Britannic Majesty, had inoculated 827, and his experiments, all fortunate, amounted at the end of 1752, to upwards of 1000. The difference of success may be partly attributed to the greater or less degree of malignity in the epidemy, partly to the greater or less share of precaution in preparing and tending the sick, and, lastly, to the different degrees of experience and abilities of the inoculators, but especially to the maxim of not hazarding inoculation on persons of a bad constitution, unwholesome, or suspected of other disorders. The Greek woman at Constantinople was exceeding scrupulous in all these points, and it was to her exact observance of them, that she attributed the constancy of her success.

In resuming the foregoing facts, and several others of which I omit the detail, I find, that, in the whole, out of 316 inoculated, but one died.

In 1748, one Dr. Tronchin, a native of Geneva, and Inspector of the College of Physicians of Amsterdam, having been on the point of losing one of his sons by the natural small-pox, resolved to inoculate his eldest : This was the first inoculation in Holland. It was followed by nine others, which M. Tronchin took upon him the direction of. Two years after, he recommended this practice at Geneva, which being accordingly adopted, M. Calandrini, a famous Mathematician, and one of the chief Magistrates of the republic, set the example on his son ; no

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fatal

fatal event has since occasioned there any regret. The same year, inoculation was introduced in Italy, by Dr. Peverini, then physician of Citerna, in the Ecclesiastical State, with very happy and singular circumstances. He was imitated by several of his confraternity, and upwards of 400 persons, of all ages, were successfully inoculated in those parts.

In 1753, inoculation began again at Amsterdam with the epidemy, and the most illustrious families at the Hague were the first to follow the example of M. Tronchin. The suffrage of M. Swenke, Professor of Anatomy, and a physician of great reputation in his profession, and the continuity of success, brought the method into request in several towns of Holland. Switzerland, as well as England, is indebted for it to the example of a tender mother, a lady of Lauzane, who, seeing that her son did not catch the small pox from his two sisters, gave it to him by the way of infection.

Such have been for upwards of 30 years vicissitudes of fortune in the famous method of inoculation. The emetic and bark did not meet with less contradictions, till their virtues were generally known. But, before we proceed, it will not be amiss to give a distinct idea of inoculation, as being an essential part of its history, and of the different manner of practising it, by those who know it but imperfectly.

The artificial small pox is probably more ancient at China than elsewhere. Father Deentrecolles, observes in his letter above-mentioned, that if this custom was introduced from Circassia, or the adjacent parts, into China, it would, in all probability, have first extended into the western provinces, and the nearest to the Caspian sea; whereas it is in the other extremity of that empire, towards the East, and in the province of Kiangnan, on the sea of Japan, that the method of Tchong-teou, that is, of towing the small-pox, is more antiently known. The Chinese thrust into the nose of children a tent of cotton impregnated

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impregnated with the matter of the dried pustules of the small-pox reduced into powder. This trial was made in England, in 1721, on a young woman under sentence of death : She was more sick than any inoculated in the usual way, and the Chinese practice, of which father Dentrecolles relates three different receipts, was judged dangerous.

Both in Greece and Turkey, the liquid matter, still hot, drawn, some moment before, from pustules of a natural and favourable small pox, was introduced in seven or eight punctures made in different parts of the body, with several superstitious precautions accompanied with offerings of wax candles, by the means of which Timone suspected that the Greek inoculatress procured the good-will of the Grecian priests, who supplied her with a prodigious multitude of subjects for inoculation.

The same Timone describes the different operations of two Grecian old women : The one of Philippopolis, somewhat more simple in her process ; the other of Thessalonica, who joined quackery to superstition, but who, more skilful than any of her sisterhood, had remarked, as the Chinese, that it was indifferent to use for inoculation matter taken from a natural or artificial small-pox. LaMotte relates the manner of his seeing the operation conducted in Circassia, by an old woman, much after the way at Constantinople. She only made punctures on different parts of the body with three pins tied together ; the patient was brought as, is still practised in Barbary, to one sick of the natural small-pox. This custom is dangerous, the inoculated party being thereby exposed to receive the distemper by contagion, before the insertion produces its effect ; but this conformity of practice between the Circassians and the people of Barbary might be an inducement to presume, that, among the great number of Circassian slaves, who compose the militia of Cairo, by the name of Mamelus, some of them had brought the custom from their country into Egypt, from whence it might have been propagated at Tripoli, Tunis, Algeria, and in the interior of Africa.

In the principality of Wales, less formality was used. School-boys gave one another the small-pox by pricking themselves with a needle, or by only rubbing the arm or the hand till the blood appeared, with pustules of the small-pox that began to dry; he that was to get it, gave two or three pence to him from whom he borrowed the matter, and this custom had no other name among the Welch, than of buying the small-pox. Long experience has given in England the preference to the following method, which has been long practised by M. Ranby, and since attended at Geneva with the greatest success, both on children and adults to the age of thirty.

After preparing the subject during some days by a regimen and proper remedies, such as a moderate diet, one or two gentle purges, a bleeding, if the case requires it, and sometimes bathing; * an incision, not exceeding an inch in length, and so as scarce to cut through the skin, is made in the external and middle part of both arms, beneath the tendon of the muscle deltoides, that the liberty of motion might not be under any restraint; in the incision is inserted a thread of the same length, impregnated with the matter of a ripe pustule, and without redress at its base, of a pock, either natural or artificial, taken from a wholesome child. This matter has been found to preserve its virtue for several months together and from Autumn to Spring: The Chinese have made the same observation. This apparel, after forty hours is taken off, and the wounds are dressed
once

* Doct. Dimsdale, undoubtedly one of the most ingenious inoculators, in Europe, prefers the following method of infecting his patients. The person to be inoculated, being in the same room, with one who has the disease, a little pus is taken from a ripe pustule, on the point of a lancet. With this lancet an incision is made in that part on the arm where usually blisters are placed, deep enough to pass for least 2 in about the eighth or an inch in length. The wound being opened between the thumb and fingers of the operator, the matter on the point of the lancet is wip'd on the wound. Neither plaster, bandage, or covering is applied. The Doctor observes, that he had never once fail'd him. At the time of Dimsdale's inoculation he had inoculated 1500 patients without a single

(13)

once a day. However, this long delay may, in a great measure, be deemed an excess of precaution; five or six hours were thought sufficient by the Greek inoculators, who, after pricking in four or five places were only careful to mix well the blood and variolous matter with their needle, and to cover the punctures with a walnut-shell.

Though the first days after the operation the patient is in a condition of going out, yet he is made to keep his chamber and to continue the regimen. † He is put to bed the 6th or 7th day, when the fever begins, which is seldom accompanied by bad symptoms, as they usually cease by the eruption on the 7th or 8th day: Then the inflammation of the wounds diminishes; they yield more matter, and the greater part of the venom flows out by that way. The 10th day after the eruption they begin to fill, the 15th to be cicatrised, and the 20th they usually close of themselves; if they are perceived still to flow, they should not be closed too hastily. One incision has been found sufficient; and, if two are made, it is not only to be more certain that the insertion has taken well, but also to facilitate, by a double canal, the issue of the variolous matter, and in order thereby to render that which forms the pustules less abundant, less acrimonious, less corrosive, and the nature of the small-pox more benign. Theory agrees wonderfully in this point with experience.

Sometimes all, or almost all, the venom flows out thro' the two incisions, and the patient has but one or two pustules, sometimes even not one; he is not therefore less

secure

† Since De la Condamine wrote, great improvements have been made by Inoculators in Europe and America. The present and most approved method of treating both the natural, and artificial small-pox, is that the patient goes abroad in all weathers, from the time of inoculation, till the termination of the disease; that a free use of cold water as common drink be indulged. Cold air, which physicians suppos'd would endanger the lives of those expos'd to it, while under the influence of the small-pox, has been found, First by accident, and since, by repeated, judicious experiments, to prevent, frequently, the secondary fever, and always to lessen it. See Damidoff on inoculation,

secure from contracting the small-pox, when inoculated anew. The more the matter comes out abundantly from the wounds of the arms, the more the number of pustules are few and distinct; whereas each parcel of the matter of the internal heat forms a particular pustule in the natural small-pox, which often makes it confluent, and therefore much more dangerous. Among the inoculations at Geneva, that kind was scarce observed; and not one retained the least mark. This was also observed not only in England, but in Greece and Circassia, whereof the inhabitants adopted the custom with the view only of preserving the beauty of their daughters.

What occasions the greatest danger in the natural small-pox, is the secondary fever that happens when the separation begins; but in the artificial small-pox, that fever is very rare, especially in children, who scarce sicken. Among 20 persons inoculated at Geneva, by M. Guyot, one only, a woman, and the mother of several Children had that second fever.

This method of inoculating by incision, adopted now upwards of 30 years, by all the English surgeons, and commonly practised at Geneva, was brought from Constantinople to England, by M. Maitland, surgeon to Lady Wortley Montague. Maitland received it from Timone, who had substituted it to the punctures of the Greek inoculators. In the first essays made in Italy, the lancet was sometimes used, and sometimes only the prick of a pin, in imitation of the simplicity of the Greek operation, especially in country places, where mothers, unknown to their husbands, inoculated their children, while they were asleep, and always with success. M. Trenchin was the first, for aught I know, that used vesicatories, as less painful and less terrible to children. He applied them to the legs preferably to the arms, with the view of procuring, for the bed-ridden patient, a greater liberty in his motions; but, as the efficacy of inoculation consists entirely in the mixture of the variolous matter with the blood of the person inoculated, made figures, provided the mixture operates,

(15)

operates, whether the wound from whence the blood is drawn, be made on one or several parts of the body ; with a lancet as in England ; with two or three needles as in Greece and Circassia ; with one only as in Italy ; by passing under the skin a thread imbued with matter, as in Barbary ; by rubbing the hand till the blood appears, as in the principality of Wales ; or, lastly, in breaking the texture of the epidermis with a vesicatory, according to the practice of M. Tronchin. All these routes conduct to the same end, and each may chuse that which seems most agreeable to him.

Whoever has a mind to see this subject treated more in detail, may consult Kirkpatrick's Analysis of inoculation. An Essay on the Advantages of very early Inoculation : by M. Maty, M. D. R. S. Sec. London medical Observations and Inquiries, vol. III. p. 287. Tissot on Inoculation. Doct. Ruston on Inoculation. And Dimfdale's present Method of Inoculation, published in Nov. 1766.

P A R T II.

P H Y S I C A L O B J E C T I O N S.

First Objection. **I**S it the small-pox that is communicated by inoculation ? And may not the distemper communicated be more dangerous than that which is intended to be prevented ?

Answer. If it was ever doubted that the inflammatory disease which follows inoculation, was a real small-pox, none now make the least doubt about it ; it would be therefore unnecessary to answer the first part of the objection. As to the second part, it may be said, that the natural small-pox is not dangerous in itself, but only becomes so by a complication of disorders with it, or by the malignity of the epidemy. Such a person, cut off in the flower of his age, might still have been living, were it not for being attacked by the small-pox in critical circumstances : That young woman would not have died, if the accidents
or

of a laborious pregnancy had not exhausted her strength : That young man would have been out of danger, had not his blood been inflamed by all manner of excesses : That sick person might have escaped, if a malignant fever and the purples had not aggravated his illness. This is what we daily hear of the circumstances that make this distemper mortal. Inoculation will prevent them all. The greatest art of the preparation consists in preventing foreign accidents, a complication of disorders, and the epidemy ; a proper choice may be made of the season, time, place, and the dispositions of the subject's mind and body ; the small-pox thus prevented is brought slowly from the circumference to the center, in a wholesome body prepared for receiving it : Fermentation begins in the external parts ; the artificial wounds facilitate the eruption, by giving the virus an easy issue. Thus the inoculated small-pox is always simple, and therefore without any danger.

What comparison can be made between a premeditated disease and one contracted by chance, on a journey, in the army, in critical circumstances, and especially for women in a time of epidemy, which multiplies accidents, which transports the seat of the inflammation in the internal parts of a body, perhaps exhausted by watching or fatigue ? How great is the difference between a disease which is expected, and one that surprises, dismays, and fear alone may make mortal, or, appearing with equivocal symptoms, may lead into an error the ablest physicians ? Such are the dictates of good sense, and the most simple reasoning, but experience is still more decisive ; it proves that the matter of inoculation, though taken from a complicated small-pox, confluent, even mortal communicates, notwithstanding, a simple, discrete, benign small-pox, exempt from the fever of suppuration, so frequently fatal ; in short, a small pox which leaves no marks. Hence it is evident that the inoculated small-pox is not more dangerous than the natural

(17)

Second Objection. Does the inoculated small-pox save from the natural?

Answer. This objection cannot be better answered, than by a history of facts; whereby it appears, that not one inoculated person had contracted the small-pox a second time. The enemies of this method have endeavoured by all manner of ways to elude this truth, even by that of imposture. Dr. Middleton was obliged to declare publicly against a report, that one of those he had inoculated was again infected with the small-pox, of which he had been very ill. Mention was made of another, with the letter of one Jones, who asserted the same thing of his son; Dr. Jurin examined carefully into the fact; the father refused to shew the child's marks, but offered afterwards to tell the truth provided he was well paid for so doing: At last, he confessed, in a letter to Dr. Jurin, that he knew nothing of inoculation. Dr. Kirkpatrick has inserted this letter in his work.

But what does it signify to know whether a complete small-pox may be had twice naturally? Though this fact, which several physicians deny, and which Dr. Mead, in the course of a long life, says he had never seen, should be well attested, it would not necessarily follow that a person, after being inoculated, should be subject to have it again. Granting that it is possible to have the small-pox, twice in the natural way, might not it be maintained, with some shew of probability, that the natural causes of the contagion do not shoot forth perhaps but imperfectly in a body the bud of the distemper, so that sometimes a sufficiency remains for a new fermentation; whereas the ferment of the small-pox, set in motion by a virus of the same nature introduced directly into the blood by the means of several incisions, flows out in so complete a manner, that no more matter remains to form a second eruption. A more powerful cause ought to produce a greater effect: Milk turns and coagulates more surely and effectually by the direct mixture of an acid, than by the natural action

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of air and heat : The artificial small-pox may therefore exhaust the leaven which the natural may not. But, setting aside these reasons, will it not be sufficient to say, in order to avert the dread of a second small-pox after inoculation, that now, upwards of 30 years since it became frequent in England, no example can be produced of any inoculated person, who had been again infected, either naturally or artificially ? Those, on whom inoculation might have been attempted without effect, are improperly ranked in the number of the inoculated ; the operation well or ill conducted, when it produces neither pustule nor suppuration, leaves the subject in the same state he was in ; if therefore he is afterwards attacked by the natural small-pox, it cannot be said that he has had it twice.

Some inoculated children have been made to cohabit and lie with others ill of the spontaneous small-pox, and none of them took it a second time. Elisabeth Harris, one of six criminals inoculated on the first trial, after recovery, nursed upwards of twenty persons sick of the small-pox, and the contagion had no effect upon her. Inoculation has been repeated several times on different subjects ; but the effects of the first being over, the incisions, notwithstanding the thread imbued with virus, healed as slight cuts : It is therefore evident that the variolic virus, though mixed directly with the blood, is incapable of renewing the small-pox ; from whence it may be concluded with good reason, that the natural contagion, introduced by the air, will have no effect on a body purged of this leaven by inoculation.

Third Objection. The small parcel of venom, transmitted into the blood by the way of inoculation, may be the bud or seed of other distempers, which may be communicated the same way, such as the scurvy, King's evil, &c.

Answer. The risque of catching these diseases, at the same time with the small-pox, would not be less great, when it is contracted naturally, than when it is received by inoculation. However, as no instance has been seen of scurvy,

(19)

scurvy, King's evil, &c. contracted in this manner by the contagion of the natural small-pox; why should the danger be greater in this respect by the way of inoculation? This is not all: There are positive proofs that this danger is chimerical, and it is now known by experience, that the variolic matter, though taken from a body infected also with a venereal virus, communicated only a simple and benign small-pox: This fact, decisive and not admitting a reply, is attested in Dr. Maty's British Journal, for April, 1754, pag. 403; yet, as the choice of matter for inoculation may be discretionally made, nothing hinders the taking of it from a wholesome subject, and especially from a child who has no other distemper than the small-pox itself.

Fourth Objection. Inoculation is sometimes attended with troublesome consequences, as wounds, tumors, &c.

Answer. Nothing is more unjust than this objection: These accidents are but too frequent after the natural small-pox, but very rare after inoculation; they are prevented by purgatives.

M O R A L O B J E C T I O N S.

First Objection. It would be an usurpation of the rights of the Divinity to afflict with a disease one who has it not, or to endeavour to withdraw him from it, who, in the order of Providence, was naturally destined for having it.

Answer. This objection, if it can be called so, is that of Fatalists and rigid Predestinarians. They might be answered that the inoculated was predestined for inoculation, and that by inoculating him the decrees of Providence were accomplished; but, without retorting against them this singular argument, they may be asked, Whether confidence in Providence exempts and dispenses us from preventing the ills we foresee, and which we may secure ourselves from by a prudent attention. Those of this principle, if they act consequently to it, ought to proscribe the use of all remedies of precaution, and of all preservatives; they ought to imitate the example of the Turks, who, thro' fear of acting contrary to the views of Providence,

Providence, perish by thousands in times of pestilence so frequent at Constantinople, whilst they see the Franks, settled among them, secure themselves from the fatal effects of the contagion, both in town and country, by shutting themselves up carefully in their houses, to avoid all exterior communication; those who here plead the rights of Divine Providence, may therefore be asked, Whether, when Providence permits the discovery of a sure method of preservation from the ravages of the small-pox, we are forbid to make use of it? It is Providence that presents us with the remedy, and it would be an offence to reject its gifts with contempt.

Sixth Objection. It is not allowable to infect with a cruel and dangerous disease one who perhaps may never have it.

Answer. It cannot be said, with any shew of truth, that the inoculated small-pox is either cruel or dangerous. An incision which only cuts through the surface of the skin, a simple puncture, or the application of a vesicatory, a slight fever attended with some symptoms which scarce last 24 hours, cannot be said to constitute a cruel disease; and a disease, by which not above one may die in 300, or perhaps not one in a thousand, cannot be called dangerous. It may even be doubtful, whether this death of one, out of so many, can be justly attributed to inoculation.

But if, out of 320 persons taken at chance, one commonly dies, how comes it to pass that M. Ranby did not lose one in 1200? The reason is, his choice was confined to young subjects of sound constitutions. When persons of all ages are inoculated without choice or precaution, as was done at Boston in the first trials, the greater part suspected of corrupt blood and humours, and in a time of epidemy, when several, before undergoing the operation, had already probably received the disease by natural contagion, there will be no room for being surpris'd that one died in 49 or 50.

It may therefore be granted, that the inoculated small-pox is neither dangerous, nor cruel, as the objection supposes it. But it will be said, it cannot be denied to be a disease;

disease; why therefore should it be given gratis to one who perhaps might never have it?' This is the most specious of all the arguments that can be made against this practice, and yet the easiest to be refuted.

I answer, first, that this disease is not given to one who might never have it naturally. For, either all men, without exception, are subject to the small-pox, or some are free from it: In the first case, it cannot be said that the disease is given to one who might never have it: The same will hold good in the second, it being proved by experience, that some could not get the small pox by inoculation, though the operation had been several times repeated; no doubt they were no way disposed to receive the distemper. He who has not the principle of it in his blood, will be free from it by an operation less painful than a bleeding; the incisions will dry up as a slight cut: Thus he will see himself for ever delivered from the continual uneasiness those are under, who have not yet paid the tribute; this proof will be a security to him that he is for ever safe from the contagion. It is even the only way of banishing the fears of those, who, by not having the small-pox in a decisive manner, or not knowing that they had it in their infancy, spend their days so as to make life a punishment. Therefore a disease, as the objection supposes, is not given to one who might never have it.

I answer, in the second place, that the small-pox is a disease which may be called general, and to which Providence is willing mankind should be subject; that the number of those who arrive at old-age without having it, is so small, that it scarce forms exceptions to the common law. But what is done by inoculating the small-pox? The very same thing whereby a fit of the gout is excited, when the particles of that painful disorder are dispersed throughout the mass of the blood; in both cases a distemper is not so much given to a body free from contracting it, as the most favourable time is chosen to give vent to the ferment that occasions it, and which we all have in our blood;

blood ; the venting of which ferment is almost inevitable in regard to the small-pox, and much more dangerous when it comes of itself, and especially in a time of epidemy.

Seventh Objection. It is not allowable to do a less evil, to procure a greater good.

Answer. This objection is founded on an equivocation. Let us suppose that this principle is in rigour and generally true, and that it admits no exception, no restriction, as to moral evil ; but it is very false in the application made of it to physical evil. Certainly it is allowable to pull down a house to preserve a town or city from a conflagration, though the proprietor of this house, with his family, might be reduced to beggary by so doing ; a whole province may be laid under water, or ruined for several years, in the view of preventing the further ravages of an enemy ; a ship, if suspected to have the plague on board, though perhaps ready to perish, is refused admittance into a port : And thus the inconsiderable physical evil of inoculation is nothing, if compared with the evils of all sorts which are tolerated, permitted, and authorised by the laws of most nations.

Eighth Objection. Inoculation is a moral evil ; as a proof of which, it cannot be denied but some inoculated persons have died ; the success of the method is therefore not infallible ; one cannot therefore subject himself to it without exposing his life, which he is not allowed to dispose of : Therefore inoculation runs counter to the principles of morality.

Answer. First, the objection may be cut short by maintaining, that none die of the inoculated small-pox, and that the accidents, attributed to inoculation, are owing to no other cause than the imprudence of the sick, or of the physician : Several able physicians have been of this opinion : M. Tronchin was so thoroughly persuaded of it, that he declared openly, if he lost one single patient by the artificial small-pox, he would inoculate no more while he lived.

Secondly,

(23)

Secondly, the argument, here advanced against inoculation, may be retorted against bleeding in the arm : How many have died by the pricking of arteries ? It is then certain that life is endangered by bleeding in the arm, which cannot with the same evidence be ascertained in regard to inoculation ; yet no casuist has hitherto been so scrupulous, as to forbid letting blood in the arm.

Thirdly, it may be observed that the supposed singularity of inoculation, that is, of giving a distemper one has not, is common to this preservative and all other remedies of medicine, no natural disorder being cured but by artificial evils, which are not even exempt from danger, such as bleedings, purgatives, cauteries, vesicatories, vomitives, &c.

It is granted that it is the duty of every one to avoid the dangers life may be threatened with ; but what becomes of this obligation when the danger is inevitable ? It is evidently converted into that of lessening the danger as much as possible ; but the risque of having some time or other the small-pox, and perhaps dying of it, is inevitable in regard to him who never had it ; therefore inoculation is a sure means of diminishing, in a great degree, this danger.

It is evident, that, when the small-pox is expected from the hands of nature, the parties expose themselves to die some time or other ; but this risque is beheld as far distant, because it seems it should not begin but when the attacks are felt, which are not yet, and perhaps, as they flatter themselves, may never be. To determine exactly the rescue of death incurred by him who never had the natural small-pox, it would be necessary to know what part of mankind is not subject to the disease ; but it may be said with good reason, that the instances of those who pass thro' life, after having arrived at manhood, and having been within the reach of infection, without undergoing this direful disease, are so extremely few, as scarce to form an exception ; learned calculations have made it as one to many hundreds,

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The risque of dying one time or other of the small-pox, which seems so far distant in time of health, is almost as great as if one was already effected. In a word, of 70 sick of the small-pox, 10 die; of 70 who expect it, 9 will probably die: Could it be believed that between these two risques there was so little difference?

The risque of dying of the small-pox gradually increases from the moment of birth. This risque is of a fourteenth for a new-born child; of an eighth for one of a year old; of a seventh for the usual age of inoculation; later, it is of a sixth, fifth, fourth, and perhaps there are only two to one, which upon a wager could be laid for the life of him, who arrives at the age of thirty without having paid the fatal tribute.

The risque of death one is exposed to by waiting from nature for the fatal present of the small-pox, is therefore of 9 to 70, that is, of more than an eighth: The risque of dying by inoculation is computed at 1 to 376, by more than 6000 experiments. Hence it may be said; that a father, in regard to his son, has only the option, either to inoculate him or not; here are two hazards to run, of which one is inevitable. By inoculating his son, against 375 fortunate events, one is to be dreaded; by not inoculating him there is more than one to be laid against seven that he will lose him; for, if out of 70 nine die, the bett will be of nine against 61, which is more than one against seven; so that, this last risque being 50 times greater than the other, he cannot with reason hesitate in his choice.

This calculation is not exaggerated. Dr. Jurin, having judged from his first enumerations, that, one year with another, there died a seventh of those taken ill of the small-pox, found on further and more exact information, first in 14,500, and afterwards in upwards of 17,000 persons, that often one in five died, and commonly two in eleven; so that the peril of the natural small-pox has not been exaggerated by supposing one in seven. As to inoculation, instead of the risque of one against 375, as supposed, it is proved

proved by the constant success of this operation in the London small-pox hospital, on persons of all ages, that the peril of this method has rather by the calculation been augmented than diminished.

Whatever might be the advantage of the artificial small-pox, even though one should not die in 10,000, I would not advise a father to subject his son to it, if he could be sure that the natural small-pox would spare him; but since, instead of a like revelation, which we want, the father has only the certainty of danger by far greater to which he exposes his son, in letting nature act, it is evident that reason counsels him, and that paternal tenderness requires, he should diminish, as much as he possibly can, a risque he cannot make void.

Such is the fate of humanity: Upwards of a third of those who are born, are destined to die, in the first year of their life, by incurable diseases, or at least unknown: Escaped from this first danger, the risque of dying of the small-pox becomes inevitable to them; it sheds its influence on the whole course of life, and in every instant of time increases; it is a forced lottery wherein we find ourselves concerned, in spite of us; each of us has a ticket in it, and the longer it delays coming out of the wheel, the more the danger augments. What is done by the practice of inoculation? The conditions of this lottery are changed; the number of fatal tickets is diminished: One in seven, and in more favourable climates, one in ten was fatal, by the natural small-pox: By inoculation, one in 300, one in 500, one in 1000, of which we have examples. All future ages will envy ours this discovery: Nature decimated, but art milled us.

P A R T III.

Containing new Answers, Consequences drawn from Facts, Reflections, &c.

HERETOFORE, to avoid entering into long discussions, I reasoned according to the supposition that there was some risque in the practice of inoculation, and I confined myself to prove that this risque was so small, compared with that incurred by the natural small-pox, that it may be deemed, as of no account. And, indeed, the risque of one in 300, 500, or 1000, is not of the same kind, and still less than that to which one is daily exposed voluntarily and without the least necessity. Some use violent and dangerous exercises, such as hunting, riding post on horseback, playing at tennis, &c. others traverse the seas, and have frequently certain death before their eyes. Shall it be said, that it is allowable to hazard one's life habitually out of curiosity, pastime, humour, or at best through a motive of convenience or pecuniary interest; and that it is criminal, I will not say to run once a very small risque in the view of preventing a great danger, but to convert a great risque which cannot be annihilated, into one 10, 20, 30, &c. times less? Such is the consequence the adversaries of inoculation are reduced to, and that, supposing even that it is not exempt from all danger: What would it be if the pretended risque was absolutely nothing, as several eminent physicians are of opinion, and as some propose to make it evident?

As I shall not engage in a dissertation on a subject, which, in order to be well treated, would require a profound knowledge both in the theory and practice of physic, I shall confine myself to simple reflections. What can be the danger of inoculation? Is it in the operation or in its effect?

New Objection. It is in both: A purulent matter, taken from a body infected with a dangerous disease, is inserted

ferted into the blood of a sound person. Must not this create horror? A like cause cannot fail of producing a pernicious effect.

Answer. Let us not take words for things: Let us leave to children puerile niceties, and let us remember that if reason had not triumphed over prejudices, and the natural repugnancy the dissection of a human body inspires, all the disorders anatomy has discovered remedies for, would be incurable. Is not nature shocked at the sight of the amputation of a limb, the perforation of the thorax in the empyema, cutting for the stone, the trepan, &c. All these operations are very cruel, their success very doubtful, and the danger of dying very great; yet they are confidently practised every day: What a prodigious difference between them and inoculation!

I made a distinction between the operation and effects of inoculation. As to the operation, it has nothing terrible or dangerous. A superficial incision on the skin differs from a scratch only, in that the latter would be more painful: But will it be said that one can die of a scratch?

As to the effects of the operation, experience decides what they are. I shall not endeavour to examine whether the contagious venom of the epidemy is only in the air that is breathed, that is, in an exterior cause; from whence it would follow that the choice of a subject which furnishes the matter of inoculation is indifferent: All I shall observe is, that since the choice not only of a subject, but also of the most benign and best conditioned small-pox can be made, those who chuse it such, cannot be censured for inserting in the veins of a sound man the produce of a dangerous illness. Besides, it is proved by the experience of several ages, as well in Asia as Africa, and of near an age in Europe, that, in the hands of an able practitioner, the danger vanishes by the choice of a subject, by preparation, &c. that inoculation occasions only a simple small-pox, which gives vent to the greatest part of the venom through the incisions, and which therefore is scarce ever confluent,
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but always more benign than the natural. It is moreover proved, that it leaves no marks, and that it is not attended with the fever of suppuration, so common and so fatal in the natural small-pox. Can any thing more be wanting to conclude, that the life of a patient is secured in the inoculated small-pox by the prescribed precautions, and that the accidents which might have attended it in a very small number of cases, ought to be attributed to foreign causes? Is it not evident by the laws of probability, that, among thousands of inoculated subjects, some one may and should die, not only forty days after, but in the week, and perhaps on the day, by the same reason that this person might pay the tribute to nature eight days, one day, or one hour before the operation? Inoculation prevents the dangers and consequences of the natural small-pox; but it is not therefore a remedy against all the disorders incident to so complex a machine as the human body, and still less a preservative against sudden death.

In order to remove all impediments thrown in my way by the quibbles of the adversaries of this method, I founded all my calculations on suppositions made as they fancied themselves; but it is now time to lay in my claim to truth. Let us then first retrench, from the number of the pretended victims of this operation, those who die of foreign accidents, as, for instance, children at the breast, suddenly cut off, in the course of a very benign small-pox, by a convulsion or cholic, which happens but too frequently to other children of their age, who seem to enjoy the best state of health; let us not lay to the account of the artificial small-pox the death of those, who, in a time of epidemy, have already received the distemper by the natural contagion, before they were inoculated: This may well be presumed, when the symptoms appear before the time when it is usual with the operation to produce its effect: Let us also except, as it is just, on one side, the deaths occasioned by intemperance, or other excesses the patients were subject to; and, on the other, the accidents which ought visibly

visibly to be attributed to the imprudence of inoculators in making trials ; these accidents are now more rare, but were frequent enough when the method was first introduced. When all these exceptions are made, of which we hitherto made none, there will not remain perhaps a single person whose death can be properly imputed to inoculation.

Make choice of a sound, young subject, and of a good constitution ; let a skilful physician be careful in preparing him ; preserve him from the epidemical contagion ; inoculate him ; his life is safe.

Last Objection. It is supposed that inoculation of itself is never mortal, but it may be said, that he who might not have died perhaps of the natural small-pox till the age of fifty, after having had children, after having served his country, would be lost for society, if he died in his infancy of the inoculated small-pox.

Answer. This objection is more specious than solid, being grounded on the supposition of the real danger of inoculation ; it will be therefore unnecessary to animadvert upon its weakness, even the case of inoculation being not absolutely without danger : It is clear that even then the great inequality of risks in the natural and artificial small-pox, the uncertainty as to the time of life in being attacked by the former, and the danger of dying so much the more great, as age is more advanced, are so many decisive reasons in favour of inoculation.

What has been already mentioned, that the small-pox destroys, mutilates, or disfigures the fourth of mankind, may be taken for an exaggeration ; but I mean the fourth of those who survive the first diseases of infancy : This may appear from the following reflections.

Towards the end of the 16th century, about 50 years after the discovery of Peru, this distemper was brought from Europe to Carthagen in America ; it overran the whole continent of the new world, and, in the province of Quito alone, destroyed upwards of 100,000 Indians. This remark has been taken from an antient manuscript

manuscript of the cathedral of that city. In the Portuguese colonies the small-pox proved fatal to all the original inhabitants of the country. M. Maitland, to whom England is indebted for the use of inoculation, relates that there are years when the small-pox is a kind of plague in the Levant, which kills at least the third of those it infects; this terrible proportion is not rare in Barbary. If we consult Dr. Jurin's lists, or those annexed to his work, among others, Dr. Nettleton's, who informed himself in several towns from house to house of the number of the sick and dead throughout the year (the surest way of being exact) it will be seen that at London, and in other parts of England, there died some years a fifth, and sometimes more of those taken ill of the small-pox; but among those who do not die of it, how many remain deprived of hearing or sight, intirely or partly! How many affected in the breast and lungs, languishing, valetudinarians, maimed! How many others, disfigured for life by deformed seams and scars, become objects of horror to those that approach them! Lastly, in the sex where comeliness is so great an advantage, how many lose their charms, some the tenderness of their husbands, others the hopes of being settled in the world, whence a real loss accrues to the state.

The small-pox raises a tribute of a fourteenth on mankind, and, though the number of victims wounded by its darts should not surpass the number of those it strikes mortally, it will notwithstanding be always true, that, out of 100 persons who have escaped the first dangers of infancy, thirteen or fourteen are cut off by this distemper, and that a like number exhibit in themselves, during their whole life, all the disagreeableness of its dismal consequences. There are then, in 100 persons, 26 or 28 witnesses to prove that this plague destroys or degrades the fourth of mankind.

The number of experiments already cited demonstrates that inoculation prevents all these calamities. The inoculated small pox is not only neither mortal nor dangerous,

(31)

ous, but it leaves nothing after it that might make it remembered with regret ; this consideration alone seems decisive for that half of mankind, to whom beauty in a great measure is sometimes dearer than life. The astonishing contrast, M. Maty says, that may be observed in visiting the small-pox hospital, between the inoculated, and those who had the natural small-pox, in regard to the effects of the distemper on the face, would be alone sufficient to determine those who make some account of the advantage of not being disfigured.

These are not conjectures hazarded by a systematic genius : They are the result of facts discussed contradictorily, and published in the face of the world by learned divines, skilful physicians, and able surgeons ; they are warranted, and have received a sufficient sanction from the great names and authority of Sydenham and Boerhaave ; the Bishop of Worcester ; Dr. Jurin, Secretary to the Royal Society ; Dr. Mead, the English Hippocrates ; and M. Ranby, first Surgeon to his Britannic Majesty.

Prudence advised and directed that too much precipitation should be guarded against in adopting a delusive novelty ; it was necessary that time should throw a new light on its utility : Upwards of thirty years experience has cleared up all doubts, and perfected the method ; the lists of those that died of the small-pox have diminished by a fifth in England, since the practice of inoculation became more common ; it is a truth that seems no longer contested in London, that the inoculated small-pox is infinitely less dangerous than the natural, and that it preserves from it. Heretofore in England this operation was bitterly inveighed against, but now it has not one enemy that dares to attack it openly : The evidence of facts, and especially the shame of maintaining a forlorn cause, have shut up the mouths of its most passionate adversaries.

LETTER I.

L E T T E R I.

S I R,

“HAVING well considered the subject of inoculation, and the state of the laws respecting it in this Colony, and likewise considering what great improvements have been made in Europe and America, in the management of both, the natural, and artificial small-pox, since them laws were enacted : Thought it highly probable if it could be made appear that inoculation might be practised at the pest-house at Middletown, with safety to the public we might be indulged. Now it is a known fact that when, some years since, inoculation was practised at several hospitals in this government, the public suffered by its being communicated from almost every hospital. I have this to say in favour of our being indulged at Middletown, that near three hundred persons have had the disease at our pest-house, without one instance of the disorder being communicated from said house. Farther, I believe any person of sense, will allow, that it is probable, that betwixt October and May sessions, a considerable number of persons may have the small-pox at Middletown pest-house much to their interest and peace of mind without the government being in the least expos'd thereby. We will allow it possible the small-pox may be communicated from said house ; can any person be so unreasonable as to desire I should be prohibited from taking the small-pox, which I conceive will be much to my interest and peace of mind, because that it is possible he may in some extraordinary way be expos'd to it, contrary to the greatest probability ? Ought a mere possibility of my acting being injurious to my neighbour to prevent my acting, when it is apparent that my acting will be much to my interest and I stand ready to give him all the security he can desire that my conduct shall not injure him, and if

(33)

if it does that I will pay all reasonable damages ? In most of our concerns in life we are obliged to act on probability, now I think it may be made appear, that it is as probable that I, with a number of my neighbours may have the small-pox at the pest-house in Middletown, without a single inhabitant of said town being injured thereby, as it is probable that a man could ride from New-Haven to Hartford in a given time, (viz.) 10 hours. I now beg it as a favour of the Government, that I with a number more, (who two years since, solicited the legislature for liberty to suffer inoculation at the pest-house in Middletown, our physician being our inoculator) may be inoculated as above. We stand ready to give bond, for our prudent conduct, are willing to be under the inspection of a committee, or the authority and select men of said Middletown, as the legislative shall think proper. It is, I believe, evident that a greater number of people have suffered the natural small-pox in this government consequent of inoculated patients coming from abroad without being duly cleansed, than from an internal inoculation.* Numbers of the inhabitants of this colony within this six years have been inoculated at Eufopus, Poughkeepsie, Norwalk, and New-York, and have traversed the government with infected apparel endangering the public, which danger will be greatly lessened, if not wholly removed, by a well regulated internal inoculation.

Farther, I think when it is considered what great sums of money are yearly sent to New-York, to pay them for importing for us English goods, it will be an inducement to indulge us in our request, to be inoculated at home, when it may be demonstrated that we can be inoculated at home with greater ease, less expence † and vastly more safety to the community.

LETTER II.

* I myself was knowing to about sixty people having the small-pox two years since in this government, consequent of some persons coming from inoculation abroad, without being duly cleansed.

† I have known several young gentlemen, who procuring inoculation abroad, have been expos'd from 10 to 20 pounds expence.— We judge inoculation will not cost us more than three pounds a head, if indulged in our present request.

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L E T T E R II.

S I R,

I Have read over the history of inoculation for the small-pox, you put into my hands, with pleasure ; the author, I think, has fully refuted the arguments against the practice, deduced from the topics of religion and morality ; and there remains no reasonable objection against the admission of the full and free use of it, as the noblest and best preservative against the ravages of that fatal distemper in those Countries, where it prevails without restraint, especially if we take into consideration the great improvements made in the practice of inoculation since Monsieur La Condamine wrote ; but as you desired my sentiments, whether it could be prudent to introduce inoculation for the small-pox (if permitted by law) to general use in this colony, I freely answer I think it would not.

The state of this colony is such, that the greater number of Inhabitants in it may for some time yet to come, probably pass thro' life without being expos'd to that disease, and surely those who are in no danger, want no security against danger, but were inoculation set up and practised by every physician, in every place they thought proper, it would lay every one under a necessity to inoculate, or stand exposed to the distemper in the natural way, the former would load the colony with a great and unnecessary expence, which she is liable to bear ; the latter would be attended with still greater expence, and would besides hazard the lives of numbers, especially of the old and infirm and valetudinary. I am therefore fully persuaded that the indiscriminate practice of inoculation here would be hurtful to us, and that the legal restraints it now lies under are in the main, founded in good policy.

At

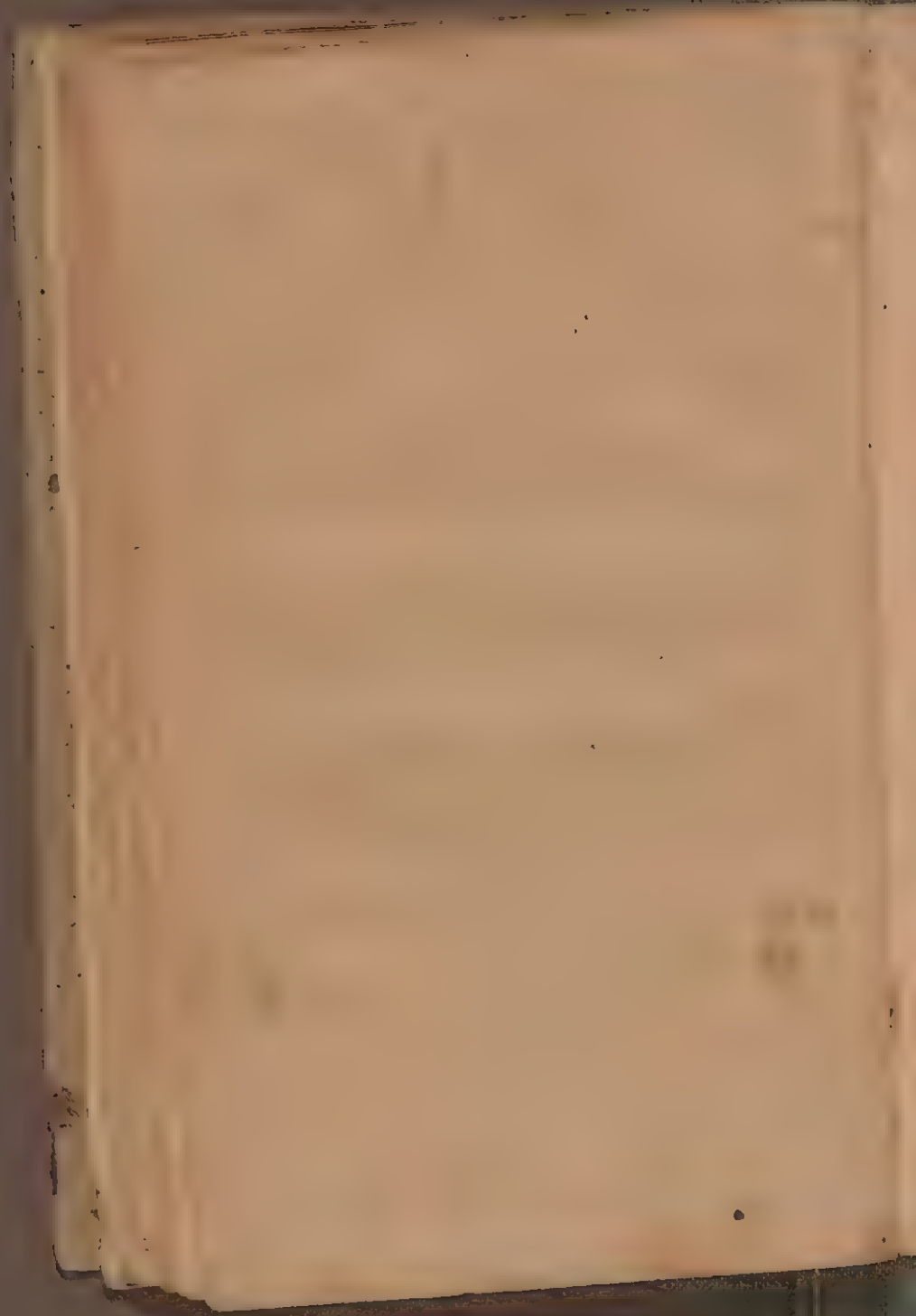
At the same time I freely confess to you I could heartily wish that the legislature would be pleased so far to dispense with the present act against inoculation, as to permit it to be practised in some prescribed place in each county, by approv'd physicians under the inspection of some gentlemen capable to direct the due management of the hospitals, and guarded with such regulations as shall appear necessary to prevent the infection's being communicated from the hospitals.

This would save a great expence of money now carried out of the colony, and save to the inoculated the cost of a long journey, which is greater than the cost of inoculation after the journey is made---it would put in the power of parents who intend their children for such trades and professions as will expose them to the small-pox, to give them the disorder when young, by which nearly all the remaining danger in inoculation will be avoided---and as government could have the whole under their immediate direction, the danger from persons returning from inoculation not well cleansed, or with remaining infection upon them will be greatly lessened, if not wholly avoided.

'Tis true the small-pox has been spread from the hospitals for inoculation, which were some years ago used in this colony, but that happened I believe, principally because no one had sufficient powers, by law, to restrain patients a competent length of time after their recovery from the disease.

From yours, &c.

Middletown, Sept. }
14, 1773. }



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